Certificate No:
TAK000026B

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Adhesive Materials for use in Insulation of Gas Carriers

with type designation(s)
Polyurethane Adhesive XPU 18571 A/B

Issued to
Jiangsu Bostik Adhesive Co., Ltd.
Changshu, **China**

is found to comply with
Gaztransport & Technigaz Specification Nr. M3005, Insulating Panel Adhesive, Rev. 02, November 2015

Application :

For use in GTT MARK III/Flex and NO96-L-03 LG containment systems of LNG carriers.

Issued at **Hamburg** on **2022-12-15**
This Certificate is valid until **2027-12-14** .
DNV local unit: **Shanghai**

Approval Engineer: **Joachim Rehbein**

for **DNV**

Thorsten Lohmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description
XPU 18571 A/B; Two-component, solvent-free polyurethane adhesive.

XPU 18571 A (Resin) - filled PU pre-polymer;
XPU 18571 B (Hardener)

Assessed production site
Jiangsu Bostik Adhesive Co., Ltd., No. 15-9, Xinggang Road, Changshu Economic Development Zone, 215536, Jiangsu Province, China

Responsibility
The Company (stated on the front page of this Certificate) takes the responsibility that both design and production follow Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation
The adhesive is mainly used to bond birch plywood (PW) to reinforced polyurethane foam (RPUF) and RPUF to rigid secondary barrier (RSB).

The material is approved for use in MARK III/Flex and NO96-L-03 LG containment systems of LNG carriers built under licence from GAZTRANSPORT & TECHNIGAZ SAs (GTT). Deliveries to actual shipbuilding projects shall be in compliance with the "Adhesives" Specification, GTT document no. 3005, latest revision, and the product shall have a valid approval from GTT.

This Type Approval certificate is not valid for designs, components, equipment, systems or products which are subject to classification by DNV.

Type Approval documentation

Tests carried out
Type Testing carried out according to **Type Approval documentation**. The Type Test results and conclusions on which this Type Approval is based are found in the GTT Approval Report “Approval of PU Adhesive referenced XPU 18571 A/B supplied by Bostik for insulating panels application” MAT-RPT-002783, Rev. 01 of 2020-10-22.

Marking of product
Product/package shall be marked with the *manufacturer’s name,* or *manufacturer’s identification letter(s)*, *place of manufacture* and *type designation*.

The marking is to be carried out in such a way that it is visible, legible and indelible. The marking of product is to enable traceability to the DNV Type Approval Certificate

Periodical assessment
The objective of the periodical assessment is to verify that the conditions for the TA have not been altered.

Periodical assessments will be required after two years and after 3.5 years (retention survey) and for renewal after 5 years (renewal survey). Refer to DNV-CP-0338, Sec.4.

This certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE